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ABSTRACT

This annotated bibliography includes summaries of 17 books and articles dealing with facilities and program planning for career education. A brief introduction discusses topical issues relevant to career education, such as the need for community involvement in planning career education programs and the potential of community-based career education programs. Primary emphasis of most of the publications cited is on facilities planning, although program and curriculum planning receive considerable attention as well. Annotations range from aproximately 125 to 250 words. (JG)

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CAREER EDUCATION FACILITIES

Charles M. Howell

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CAREER EDUCATION FACILITIES

The documents dealing with facilities for career education emphasis in program development have several points they bring out common to one another. Those areas which concerned the authors are; community involvement in all stages of planning and development, open spaces, resources, adequate square footage for each students use, adult programs, shared space, long-range planning, budget consideration, teacher involvement, needs assessment, guidance, and articulation of programs, K-12. Each of these major component areas will be discussed individually.

The authors seemed to agree on a central issue relevant to any program or building change or development in that it is extremely important to have the community involved from the inception of the project. Lay advisory committees, town meetings, adult study groups, newspaper support, leaders of the community, all need to be informed and help advise the elected or appointed board on critical issues. The advice can range from individual program needs, to whether or not the time is right for a bond issue for a major building project.

Open space with movable or readily dismantled walls are recommended so new programs or redesigned curricula can take shape with a minimum of cost at a future date. One school, The Otsego Occupational Center near Milford, N. Y., has no interior walls

in its complex allowing extensive flexibility in its use. Elementary schools, middle schools and high schools are definately moving in this direction for the construction of new facilities.

Tax resource monies for the building of new or remodeling of old facilities is becoming a matter of increasing concern to school boards and administrators in our current sluggish economy. It appears that any specialized facilities are going by the waysidewith only the most necessary construction being undertaken. Because of an increased emphasis on preparing students for entering the work world upon graduation from high school, laboratories and shops with career, skill building program motivation, boards of education have seemed more reluctant to cut any construction of these types of facilities than other specialized facilities. There is also a trend of placing students in the community as a basis for their training as opposed to building more facilities with tax dollars. Not only is there considerable saving from the construction and maintenance point of view, but there is some evidence surfacing to indicate that the student is gaining more realistic experiences which enable him/her to adjust more easily to the "real world" upon graduation from high school. This is going on now at several locations throughout the country, but one to be noted is our own Community Based Career Education experiment at Tigard, Oregon.

Shared space for compatable programs is a major concern for the administrator. This can take the form of no more than two shop instructors using the same central facility for the basis of two reasonably related courses or it can also become a giant community, adult education, high school, recreational, career education complex that has been designed from the beginning to serve the whole community for its diverse educational and other activity needs.

Long range planning and all of its budgetary ramifications are certainly critical to every school administrator and school board member. Especially important to the vocational education staff member, who must expend large sums of money on equipment and supplies, this business of a year to year "hope I can get what I need and want" attitude must stop and be backed up instead with a realistic repair and replacement program based on a good, comprehensive, program needs assessment.

A good career education program and facility provides for articulation of curricula, K-12, from career awareness activities through exploration to preparation. An elementary school built with the career aspects of its role with open space and work world philosophy built in is a good start to successful job-entry upon graduation from high school. The Milford, Delaware teachers planned and worked through to fruition just such a school.

The ability for a school district to provide adequate space for guidance personnel, and design the facility for integration of guidance concerns within the framework of career education concepts is an indication of good prior planning.

Apparently, there is a bit of disagreement on the variable of how much square footage should be provided for each student. Some of the authors recommended as low as 75 square feet per student, others as much as 175 square feet. In any case, for each community's needs attention for adequate space must be given.

Included within the articles that dealt with career oriented facilities were accompanying planning flow charts, cost estimate check off sheets, enrollment prediction formulaes, and ideas for involving the community in the assessment process. The ERIC documents would certainly be worthwhile in investing in if projects were anticipated within the confines of the subject areas covered.

ANNOTATED BIBLIOGRAPHY

Burns, James A. "McGavock: A Model School" Educational Leadership - Journal of the Association for Supervision and Curriculum Development, NEA, Volume 29, No. 6, (March, 1972) pp. 529-533. EJ 054 313

McGavock is a school designed totally from the ground up for a whole person approach. 2700 students are served in a 448,000 square foot complex which was jointly developed with other governmental agencies adjacent to a 400 acre public recreation/park area.

The curricula has been developed to enhance the basic philosophy of serving a diverse student population with different needs, backgrounds, and career development goals and patterns. Such diverse programs as child development careers (including a nursery training facility), health related professions, aircraft mechanics, commercial food preparation, commercial art, data processing, welding, refrigeration, mechanics, electronics, sheet metal, electrical, and shop machines have specialized facilities provided for in the complex.

Integrated academic curricula round out the program for students of differing career patterns. Guidance and increased emphasis on career development for all students, not just terminal students is an integral part of the plan. Programs relevant to students of varying backgrounds with increased emphasis on specialization are provided for. A community schools plan and a flexible organizational structure gives McGavock a true Career Education philosophy and facility.

Campbell, Edward A. " Advice on Planning New Shops and Laboratories." Industrial Education, Volume 64, No. 3, (March, 1975) pp. 33-38.

Dr. Campbell is an experienced educational consultant who has contributed much in the field of educational facilities planning. In this shop planning annual sponsered by Industrial Education, Dr. Campbell pursues the role of the classroom teacher and his relationship with the administrators, board of education and community in the planning and building of school facilities. Too often boards and superintendents hire an architect, plan, design and build a facility without teacher input, but rather base their decisions on X number of square feet needed for X number of students. Teachers should get involved in the curriculum and educational specification meetings from the beginning.

A feasibility study to determine the educational program needs rather than an architect's cost study should be used to design facilities.

A needs assessment to determine community needs, population trends, community and school enrollments, characteristics of people to use the facility and all other factors relevant to the project should be assessed.

Efficient instruction, philosophy, teaching techniques, and proper planning should produce good educational facilities that are safe, efficient and have an eye to the future for the facility will have a profound effect on the educational endeavors undertaken for years to come.

"Career Cluster Facilities Guide." The Oregon Board of Education, (1973) p 59.

This document first takes you through an introductory statement on the concepts of career education, K-14. It then describes three kinds of spaces needed to carry on a program. A resource center, support facilities, to include storage, lockers, conference rooms and dressing areas, and a job simulation laboratory. This to give students actual experience with materials, equipment and processes relevant to the program.

The general concept for a functional plant with supportive design layouts is an integral part of this presentation. A realistic program and accompanying plans for each cluster area is included.

Suggested planning processes for various community settings is included, with enrollment assessment and possible course offerings for different sized schools is graphically shown. An excellent document for an adminstrator to use when growth of facilities is anticipated.

Dean, Thomas. "Let your budget express your long-range goals."
and
Campbell, Edward. "Strike down Haphazard Junior-High Lab Planning." Industrial Education - The Magazine for Industrial Arts, Vocational Industrial and Technical Education. Volume 62, No. 3, (March, 1973) pp. 24 - 27.

These two companion articles discuss the long-range planning processes and good layout practices that should be considered when designing new facilities.

In the first, the long and short range program budgeting process is examined from a teacher/administrative/school-board viewpoint. A brief overview of the Planning-Programing-Budgeting system is given the reader (most appropriate now for Oregon school personnel, since its implementation is now mandatory) then how each segment of long range planning and the personnel roles play a part in the overall program is discussed. Program budgeting's strong points are brought to light. The careful control and visibility of expenditures is shown, the means for measuring educational output and multi-year planning are points well taken.

The better planning and program development that can result from analysis of laboratory planning is evident in the junior high laboratory planning article. The learning environment must be planned to facilitate instruction, be as safe as possible, and to achieve maximum value for the money spent.

Basic principles are discussed to include:

1. Plan to include community needs.
2. Plan for the future.
3. Plan for pupil space.
4. Safety considerations.
5. Adequate utilities.
6. Storage
7. Lighting
8. Environmental controls.

"Delaware's Occupational/Vocational Education Model: Career Development Learning Units: Elementary School." Delaware State Board for Vocational Education, (September, 1972) 77 p.

ED 085 529 CE 000 707

An open elementary classroom layout is central to the activities carried out by the Milford, Delaware teachers. Career education is carried on by the staff via "hands on" action learning techinques. Elementary career education is introduced to teachers through in-service to learn the concepts and activities.

The learning units developed were tested by classroom teachers using the school, teacher, and community. The units relate the classroom to the work world and result in meaningful school activities. When possible, teachers have used the career cluster concept in utilyzing space and activities in the delivery of the units within their own location.

The materials that can be suggested for use elsewhere and the community involvement at the elementary level "how to" is included in this document.

Ditlow, George and Steinmetz, Richard J. " "Career" Labs for Middle School Industrial Arts." Industrial Arts and Vocational Education, Volume 61, No. 3, (March, 1972) pp. 22-25 T 61 .16

In planning a new facility for a career oriented class the type of program goals are a first "must" to be considered. Broad areas of instruction and diverse student activity needs are necessary to consider. All facilities are to be planned with the needs of both boys and girls to be taken into consideration. Flexibility and versatility are essential to allow for variance in program offerings.

Among other considerations, the communities needs for cultural, civic and recreational space should b included. Team teaching and interdisciplinary approaches need to be built into the flexibility of the physical plant.

Special consideration for all services such as electrical outlets, emergency cut-off switches, air, water, and waste should be distributed through a flexible service grid in all areas where they may ever be needed.

Artificial lighting, traffic flow patterns, and supply accessibility are to be intregrally planned to enhance the learning environment. This article is accompanied by several well thought out layouts of what a new facility might look like in todays diverse needs school system.

Doherty, James E. and Furno, Orlando F. " Specialized Facilities in Today's New Schools." School Management, Volume 14, No. 8, (August, 1970) pp. 15-19. L 11 .S46

The cost of building new facilities and the relationship of what areas of instruction are being provided for are discussed in this feature. Those facilities constructed prior to 1968 show an effort to provide for specialized services such as auditoriums, gymnasiums, language laboratories and science laboratories, central libraries, music-band rooms, cafeterias and kitchens. Since 1968, those facilities that seem to be holding their own include shop and vocational areas such as home-economics, educational television areas (for career skill development) and arts-and-crafts areas.

Particularly at the secondary level, school boards continue to provide additions and/or new facilities for the development of career oriented programs such as shops, libraries, science laboratories. An interesting side-light is that gymnasiums were built more frequently in new schools or additions than libraries. Apparently gymnasiums are considered more important than libraries in a large number of communities.

It really should be no surprise to anyone that a cut-back on building specialized facilities is taking place. Considering the sharp slow-down in school building because of soaring building costs, it was almost inevitable that the quality as well as quanity would suffer. Most experts agree that school building construction won't return to normal until the enrollment of students and general economy stabilize.

"Guidelines for Planning Facilities. Home Economics Education, Secondary Schools." Wisconsin State Department of Public Instruction, (1973) 28 p. ED 085 527 CE 000 705

This document is concerned with the process of planning new or remodeling old facilities for home economics programs. The philosophy of home economics should form the basis for planning facilities, followed by an appropriate administrative structure being worked out. Needs assessment in the areas of students , program, and facilities forms the next step, followed by checking of the curriculum areas by teachers to identify local program needs. The importance of involvement by all concerned parties is emphasized. Diagrams of flowcharts and checklists are included in the expectation that by these means attention will be directed to issues and processes involved in the complex procedures concerned with facility change or new construction.

Excellent steps outlined through the use of well thought through and documented charts. It would be difficult to go wrong using this process in the planning and implementing of a new or revised program. An excellent approach.

"Metal Buildings Offer Answers to Construction Problems" School Management, Volume 16, No. 8, (August, 1972) pp. 26-29. L 11 .S46

Approximately 6.5 percent of the current construction of school facilities is being completed through the use of pre-designed, pre-engineered metal buildings. At a cost factor from $12-$23 per square foot as opposed to nearly double that for more conventional methods of building, its easy to see why boards of education are leaning more heavily on this alternative method to provide instructional areas for their students.

One of the major considerations discussed is the time factor of being able to be in a completed unit at a far earlier date after the decision is made to build. A metal building cited was completed as an elementary school just 16 months after issuance of a contract.

Schools have found that the flexibility of smaller units are most useful, for economy, speed of construction, portability, appearance and low maintenance costs.

Metal buildings are also being used as large open shop spaces or through the use of semi-permanent walls can be readily adapted as classroom units. The old concept of a shed type structure has been left by the wayside as metal gives much freedom as to design type and style.

This article is accompanied by several very attractive color photographs to substantiate that metal buildings can indeed look very nice.

Passantino, Richard J. "Community/Schools Facilities. The Schoolhouse of the Future." Phi Delta Kappan, Volume LVI, No. 5, (January 1974), pp. 306-309. EJ 109 237

While not speaking directly to career education, this article deals with the design of school facilities that will serve the "whole person". The early landmark of school/community program in Flint, Michigan, in 1935, by Charles Mott was the beginning of modern outreaching to the general community for the education of our youth. Labor laws, age stratification and other compulsory education factors lead to our children being pulled out of the adult community and sent to a central learning fortress.

Communities seem eager to secure more return for their capital and operational investment dollar. Art, recreation, adult education programs and occupational skill development for all age groups are providing the stimulus for using all the community resources.

Energy conservation is of major concern. Joint usage of shared staff and effective scheduling allows extended hours of operation thus energy for heat and light is saved.

This article talks about the "third generation" of community/schools. This term leaves the reader with a conotation of a prototype for including education, not keeping it apart from other community activities.

"Planning for Education: People and Processes." School Planning guide series - 1R, North Carolina State Department of Public Instruction, Division of School Planning., (March, 1973) 54 p.

ED 082 353 EA 005 469

While not directly speaking to Career Education, this document is useful to Career Education facilities planners because of the implications involved in planning for any school complex. In the process of planning for the needs of all students, local school officials could use a linear planning guide not unlike the one depicted on the board by Dr. Piele. Such procedure calls for moving through several phases; preparation for planning, analysis of the situation, development of alternatives, selection of a plan, implementation of that plan, and evaluation of the plan and process, comprising of both in-house involvement of staff and out-side team objectivity and resources. The process would apply to any planning need. It can apply to the development of long-range plans affecting the community's total educational program, or can apply to the renovation of existing facilities. It could also be used for short-range planning for the utilization of a single school.

This document is but a part of a total school planning guide published for use by local school officials to help plan for facilities for the use of all students, their needs and interests.

"Proposed Model Career Education System for the Blank Public Schools." University Research Corporation, (May, 1973) 18 p.
ED 097 422 CE 002 134

This model provides information for estimating the costs of implementation of a career education program at all grade levels. The model includes a format for helping to determine annual expense for programs in the areas of teacher in-service, dropout prevention, guidance, career exploration, and vocational education. Discussion includes the areas of continuing education for adults, career education, and help in job placement. Costs for office supervisory staff and a schdule for implementation of recommended programs are also included.

Remodeling expense, building requirements, facility expansion, personnel requirements, and a discussion of what additional staff may be required are presented in this model.

The school board of trustees role for an in-depth report by selected staff members and their respective roles is discussed. Community involvement, advisory committee use and other "start-up" activities are outlined. First year costs with administrative staff and central office needs with appropriate budgetary notations is discussed and outlined.

Svicarovich, John - Hagans, Rex. "An Employer Based Career Education Model." Education Leadership, Journal of the Association for Supervision and Curriculum Development, NEA, Vol. 30, No. 3, (December, 1972) pp. 222-224. EJ 066 194

In the middle of a series of articles dealing with career education concepts, these gentlemen discuss the viable alternative of moving students into the community for use of facilities other than tax built/supported buildings. Because of our information rich/experience poor environment the authors propose the way to meet the students experience need is to put them out into the "real world" and let them gain experience in the area that they wish to pursue academecally and vocationally. EBCE (employer based career education) is based on the assumption students learn best by performing useful tasks in a real situation and by getting real rewards for performing those tasks. This to help lower the barriers between education and living which, in fact is the same thing.

By providing work and community settings as the sites of learning, EBCE shows the learners and the adults they come in contact with that education and lifes responsibilities are inseparable. All work and learning experiences are measured in behavioral or performance terms and the experiences must be relevant to earning a high school diploma.

Although other areas are quoted, this article is easy to relate to and neat because one of the projects talked about is the Northwest Laboratory's Tigard EBCE.

Wolin, Robert B. "Occupational Center Uses Open Plan Concept" Industrial Education, Volume 62, No. 3 (March 1973) pp. 46-49.

The Otsego Area Occupational Center is one of the more innovative school plants designed in recent years. Located near Milford, N.Y. on a 292 acre site, it was built to serve the occupational training segment of the needs of 21 school districts. The economically built center has open space, and utilyzes bright colors to enhance the learning environment. The compactly designed interior floor space permits multiple use of otherwise static facilities. The separate areas of instruction have no walls between them except for the Wood/Metals areas.

Programs include drafting, metals, mechanics, and agricultural mechanics. A unique feature is that down the center of the building is a 24 foot wide passageway with storage and boy's and girl's toilets at either end. Since the floor to ceiling height needs in this area are not critical, there is a glass enclosed mezzanine above it which provides space for learning areas equipped with desks and central resource center. The mezzanine is open so activities can be observed in all shops from it. A building wing houses learning areas, health services, trade drawing, distributive education, office practice and food services, all virtually one open space.

The 44,000 square feet cost $21.58 per square foot and serves 281 students with a planned capacity of 400. In addition, an extensive community adult program is operated here too.

Woodruff, Alan P. "Career Education Facilities." Educational Facilities Laboratories, Inc., (April, 1973) 47 p. 73-76703

A delightful, fresh approach to the planning of facilities for career education activities is to be found in this publication. The concepts of shared space, interdisciplinary teaching and setting of standards for modern facilities are included.

The development of space sharing/flexible overlapping laboratories are dealt with in a clear-cut easily readable method. Practical space sharing ideas with examples and accompanying charts for easy planning are included.

Disciplines which can share equipment and space for learning experiences can be drawn together for their common feature. The author uses the term "magnet" model for this arrangement. A "Spin-off" model is also described allowing for minor additions to one program may very well provide for additional curriculum.

A detailed discussion for the planning standards is included for each of the following areas:

1. Building Trades
2. Business, Office Occupations and Merchandising
3. Electricity and Electromechanics
4. Graphics and Communication Arts
5. Heating, Ventalation, Airconditioning and Refrigeration
6. Medical - Dental
7. Metals and Materials Fabrication
8. Public Services
9. Science and Technology
10. Vehicle Maintenance

BIBLIOGRAPHY

Burns, James A. "McCavock: A Model School" Educational Leadership - Journal of the Association for Supervision and Curriculum Development, NEA, Volume 29, No. 6, (March, 1972) pp. 529-533. EJ 054 313

Campbell, Edward A. "Advice on Planning New Shops and Laboratories." Industrial Education, Volume 64, No. 3, (March, 1975) pp. 33-38.

"Career Cluster Facilities Guide." The Oregon Board of Education, (1973) p 59.

Dean, Thomas. "Let your budget express your long-range goals." and
Campbell, Edward. "Strike down Haphazard Junior-High Lab Planning." Industrial Education - The Magazine for Industrial Arts, Vocational Industrial and Technical Education. Volume 62, No. 3, (March, 1973) pp. 24-27.

"Delaware's Occupational/Vocational Education Model: Career Development Learning Units: Elementary School." Delaware State Board for Vocational Education, (September, 1972) 77 p. , ED 085 529 CE 000 707

Ditlow, George and Steinmetz, Richard J. " "Career" Labs for Middle School Industrial Arts." Industrial Arts and Vocational Education, Volume 61, No. 3, (March, 1972) pp. 22-25, T 61 .16

Doherty, James E. and Furno, Orlando F. "Specialized Facilities in Today's New Schools." School Management, Volume 14, No. 8, (August, 1970) pp. 15-19. L 11 .S46

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"Planning for Education: People and Processes." School Planning guide series - 1R, North Carolina State Department of Public Instruction, Division of School Planning., (March, 1973) 54 p. ED 082 353 EA 005 469

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